informalities. Claims 37-42 also stand objected to because of various informalities and have not been treated on the merits. Claims 27-31, 33, 35, 43, 45, 47, and 49-51 have been withdrawn from consideration pursuant to 37 CFR 1.142(b) as being drawn to a non-elected species of spin coating, linear coating head, and spray nozzle, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

Claim Objections:

Claims 18, 32, 36, 44, and 48 stand objected to because of various informalities. Claims 37-42 also stand objected to because of various informalities and have not been treated on the merits.

In response to these objections, Claim 18 has been amended such that it is no longer a duplicate of Claim 5; Claim 32 has been amended such that it is no longer a duplicate of Claim 1; Claims 36, 44, and 48 have been amended such that they are now directed to methods of using a combinatorial coating library, rather than creating a combinatorial coating library; and Claim 48 has been amended, inserting the word --of -- between "plurality" and "curing." Claims 37-42 have been amended such that they are now dependent on independent Claim 36.

Thus, Applicant submits that the objections to Claims 18, 32, 36, 44, and 48 have been overcome and that Claims 37-42 may now be treated on the merits.

Claim Rejections – 35 USC 112, second paragraph:

Claims 4 and 34 stand rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

In response to these rejections, Claim 4 has been amended, removing the relative term "small," and Claim 34 has been amended such that it is now dependent on system/apparatus Claim 1.

Thus, Applicant submits that the rejections of Claims 4 and 34 under 35 USC 112, second paragraph, have been traversed and respectfully requests that the rejections be withdrawn.

Claim Rejections – 35 USC 102(b):

Claims 1-11, 16, 18, 21, 22, 25, 32, 34, 36, 46, and 48 stand rejected under 35 USC 102(b) as being anticipated by Schultz et al. (U.S. Patent No. 6,004,617).

In response to these rejections, Claim 1 has been amended to recite, in relevant part, "a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer." Claim 11 has been amended to recite, in relevant part, "a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer, the curing system comprising a heating source in thermal communication with an elongate heating element operably positionable adjacent to the one or more substrates, wherein the heating element has a variable heat distribution characteristic along a dimension of the heating element." Claim 36 has been amended to recite, in relevant part,"selectively applying at least one of a plurality of curing environments simulatneously to each of a plurality of regions associated with the at least one coating layer." Claim 48 has been amended to recite, in relevant part, "selectively applying at least one of a plurality of curing environments simultaneously to each of the plurality of regions." Schultz et al. does not disclose "a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer," "a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least

one coating layer, the curing system comprising a heating source in thermal communication with an elongate heating element operably positionable adjacent to the one or more substrates, wherein the heating element has a variable heat distribution characteristic along a dimension of the heating element," "selectively applying at least one of a plurality of curing environments simulatneously to each of a plurality of regions associated with the at least one coating layer," or "selectively applying at least one of a plurality of curing environments simultaneously to each of the plurality of regions."

Thus, Applicant submits that the rejections of Claims 1, 11, 36, and 48 under 35 USC 102(b) have been traversed and respectfully requests that the rejections be withdrawn. Because Claims 2-10, 16, 18, 21, 22, 25, 32, 34, and 46 are dependent on independent Claims 1, 11, and 36, and because Claims 1, 11, and 36 now recite elements/limitations not disclosed by Schultz et al., Applicant submits that the rejections of Claims 2-10, 16, 18, 21, 22, 25, 32, 34, and 46 under 35 USC 102(b) have been traversed and respectfully requests that these rejections also be withdrawn.

Claim Rejections – 35 USC 103(a):

Claims 19, 20, 26, and 44 stand rejected under 35 USC 103(a) as being unpatentable over Schultz et al. as applied to Claims 1-11, 16, 18, 21, 22, 25, 32, 34, 36, 46, and 48, and further in view of the admitted state of the art. Claims 12-15 and 17 stand rejected under 35 USC 103(a) as being unpatentable over Schultz et al. as applied to Claims 1-11, 16, 18, 21, 22, 25, 32, 34, 36, 46, and 48, and further in view of Courtney et al. (U.S. Patent No. 4,390,615). Claims 23 and 24 stand rejected under 35 USC 103(a) as being unpatentable over Schultz et al. as applied to Claims 1-11, 16, 18, 21, 22, 25, 32, 34, 36, 46, and 48, and further in view of Poullos et al. (U.S. Patent No. 5,200,230).

Because Claims 12-15, 19, 20, 23, and 24 are dependent on independent Claims 1 and 11, and because Claims 1 and 11 now recite elements/limitations not taught or suggested by Schultz et al., Applicant submits that the rejections of Claims 12-15, 19, 20,

23, and 24 under 35 USC 103(a) have been traversed and respectfully requests that the rejections be withdrawn.

Claim 17 has been amended to recite, in relevant part, "a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer, wherein the plurality of curing environments include a curing environment selected from the group consisting of thermal radiation, ultraviolet radiation, visible radiation, microwave radiation, electron beam radiation, laser radiation, and humidity, the curing system comprising a spatial mask having an elongate surface positioned between a curing source and the at least one coating layer, wherein a radiation transmission characteristic varies along a dimension of the elongate surface of the spatial mask." Claim 26 recites, in relevant part, "a plurality of substrates each secured by one of a plurality of substrate holders, each of the plurality of substrates comprising an acoustic wave transducer having a first acoustic wave parameter and a second acoustic wave parameter, the first acoustic wave parameter corresponding to a first amount of coating or viscoelastic property of a coating layer on the substrate, the second acoustic wave parameter corresponding to a second amount of coating or viscoelastic property of the coating layer on the substrate." Claim 44 recites, in relevant part, "providing a dip-coating apparatus having a plurality of substrate holders and a corresponding plurality of wells, the plurality of substrate holders and the plurality of wells relatively positionable to immerse a plurality of substrates secured by the plurality of substrate holders within at least one of the plurality of materials disposed within the plurality of wells." Schultz et al. does not teach or suggest "a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer, wherein the plurality of curing environments include a curing environment selected from the group consisting of thermal radiation, ultraviolet radiation, visible radiation, microwave radiation, electron beam radiation, laser radiation, and humidity, the curing system comprising a spatial mask having an elongate surface positioned between a curing source and the at least one coating layer, wherein a radiation transmission characteristic varies along a dimension of the elongate surface of the spatial mask," "a plurality of substrates

each secured by one of a plurality of substrate holders, each of the plurality of substrates comprising an acoustic wave transducer having a first acoustic wave parameter and a second acoustic wave parameter, the first acoustic wave parameter corresponding to a first amount of coating or viscoelastic property of a coating layer on the substrate, the second acoustic wave parameter corresponding to a second amount of coating or viscoelastic property of the coating layer on the substrate," or "providing a dip-coating apparatus having a plurality of substrate holders and a corresponding plurality of wells, the plurality of substrate holders and the plurality of wells relatively positionable to immerse a plurality of substrates secured by the plurality of substrate holders within at least one of the plurality of materials disposed within the plurality of wells."

Thus, Applicant submits that the rejections of Claims 17, 26, and 44 under 35 USC 103(a) have been traversed and respectfully requests that these rejections also be withdrawn.

CONCLUSION:

Applicant would like to thank Examiner for the attention accorded the present Application. In light of the foregoing amendments and remarks, Applicant requests that Examiner reconsider this Application and allow Claims 1-26, 34, 36-42, 44, 46, and 48. Should Examiner have any questions, or should any further action be required to place the Application in better condition for allowance, Examiner is encouraged to contact undersigned Counsel at the telephone number, address, or email address provided below.

Respectfully submitted,

Date: January 3, 2003

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CLAIMS WITH MARKINGS TO SHOW AMENDMENTS MADE

In accordance with 37 CFR 1.121(c)(1), the following version of the Claims, as rewritten by the foregoing amendments, shows the changes made relative to previous versions of the Claims. Material added is shown in underlined text and material deleted is shown in [brackets].

[c01] (Amended) A system for creating a combinatorial coating library, comprising:

a coating system operatively coupled to at least one of a plurality of materials suitable for forming at least one coating layer on a surface of one or more substrates; and

a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c02] The system of claim 1, wherein the curing system is operable to apply substantially the same predetermined one of the plurality of curing environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c03] The system of claim 1, wherein the curing system is operable to apply a substantially different predetermined one of the plurality of curing environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c04] (Amended) The system of claim 1, wherein the plurality of materials further comprise a material selected from the group consisting of polymeric materials[,] and oligomeric materials[, and small molecules].

[c05] The system of claim 1, wherein the coating system further comprises a coating system selected from the group consisting of a spray/vapor coating system, spin coating system, dip coating system, flow coating system, and draw-down coating system.

[c06] The system of claim 1, wherein the curing system further comprises a heating source in thermal communication with a heating element operably positionable adjacent to the one or more substrates

[c07] The system of claim 6, wherein the heating element has a variable heat distribution characteristic along a dimension of the heating element.

[c08] The system of claim 6, wherein the heating element has a constant temperature distribution along a dimension of the heating element.

[c09] The system of claim 6, wherein the heating element has a variable temperature distribution along a dimension of the heating element.

[c10] The system of claim 6, wherein the heating element has a geometrical shape which is a predetermined function along the length of the heating element.

[c11] (Amended) A system for creating a combinatorial coating library, comprising:

a coating system operatively coupled to at least one of a plurality of materials suitable for forming at least one coating layer on a surface of one or more substrates; and

a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer, the curing system comprising a heating source in thermal communication with an elongate heating element operably positionable adjacent to the one or more substrates, wherein the heating element has a variable heat distribution characteristic along a dimension of the heating element;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c12] (Amended) [A system according to claim 1] The system of claim 1, wherein the curing system further comprises a spatial mask having an elongate surface positioned between a curing source and the at least one coating layer, wherein a radiation transmission characteristic varies along a dimension of the elongate surface of the spatial mask.

[c13] (Amended) [A system according to claim 1] The system of claim 1, wherein one of the plurality of curing environments associated with at least one coating layer further comprises a spatial mask having at least one dimension said mask being positioned between [the] a curing source and the at least one coating layer, wherein the radiation transmission characteristic varies along at least one dimension of the spatial mask.

[c14] (Amended) [A system according to claim 13] The system of claim 13, wherein the radiation transmission characteristic varies as a function of time and wavelength.

[c15] (Amended) [A system according to claim 13] The system of claim 13, wherein the radiation transmission characteristic varies exponentially, linearly, sinusoidally, or stepwise.

[c16] (Amended) [A system according to claim 1] The system of claim 1, wherein the plurality of curing environments include a curing environment selected from the group consisting of thermal radiation, ultraviolet radiation, visible radiation, microwave radiation, electron beam radiation, laser radiation, and humidity.

[c17] (Amended) A system for creating a combinatorial coating library, comprising:

a coating system operatively coupled to at least one of a plurality of materials suitable for forming at least one coating layer on a surface of one or more substrates; and

a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer, wherein the plurality of curing environments include a curing environment selected from the group consisting of thermal radiation, ultraviolet radiation, visible radiation, microwave radiation, electron beam radiation, laser radiation, and humidity, the curing system comprising a spatial mask having an elongate surface positioned between a curing source and the at least one coating layer, wherein a radiation transmission characteristic varies along a dimension of the elongate surface of the spatial mask;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c18] (Amended) The system of claim [1] 17, wherein the coating system further comprises a coating system selected from the group consisting of a spray and vapor coating system, spin coating system, dip coating system, flow coating system, and draw-down coating system.

[c19] (Amended) [A system according to claim 1] The system of claim 1, wherein said coating system further comprises a dip-coating apparatus having a plurality of substrate holders and a corresponding plurality of wells, the plurality of substrate holders and the plurality of wells relatively positionable to immerse a plurality of substrates secured by the plurality of substrate holders within at least one of the plurality of materials disposed within the plurality of wells.

[c20] The system of claim 19, further comprising a plurality of substrates each secured by one of the plurality of substrate holders, each of the plurality of substrates comprising an acoustic wave transducer having a first acoustic wave parameter and a second acoustic wave parameter, the first acoustic wave parameter corresponding to a first amount of coating or viscoelastic property of the coating layer, the second acoustic wave parameter corresponding to a second amount of coating or viscoelastic property of the coating layer.

[c21] The system of claim 1, wherein each of the plurality of curing environments comprises one of a plurality of curing sources and one of a plurality of curing characteristics, wherein the curing system is operable to apply substantially the same curing source in combination with a substantially different predetermined one of the plurality of curing characteristics to each region associated with the coating layer.

[c22] The system of claim 1, wherein each of the plurality of curing environments comprises one of a plurality of curing sources and one of a plurality of curing characteristics, wherein the curing system is operable to apply a substantially different curing source in combination with a substantially different predetermined one of the plurality of curing characteristics to each region associated with the coating layer.

[c23] The system of claim 1, wherein one of the plurality of curing environments associated with at least one coating layer further comprises a scanning mirror system having a mirrored surface positionable relative to an incoming radiation beam, wherein the mirrored surface is positionable to direct the incoming radiation beam to a selected one of the plurality of regions associated with the coating layer.

[c24] The system of claim 1, wherein one of the plurality of curing environments associated with at least one coating layer further comprises a plurality of waveguides each having a first end corresponding to one of the plurality of regions associated with the coating layer and a second end associated with a curing source.

[c25] The system of claim 1, wherein one of the plurality of curing environments associated with at least one coating layer further comprises a heating source in thermal communication with an elongate heating element operably positionable adjacent to the plurality of substrates, wherein the elongate heating element has a modulated heat transmissibility characteristic.

[c26] A system for creating a combinatorial coating library, comprising:

a plurality of substrates each secured by one of a plurality of substrate holders, each of the plurality of substrates comprising an acoustic wave transducer having a first

acoustic wave parameter and a second acoustic wave parameter, the first acoustic wave parameter corresponding to a first amount of coating or viscoelastic property of a coating layer on the substrate, the second acoustic wave parameter corresponding to a second amount of coating or viscoelastic property of the coating layer on the substrate;

a coating system operatively coupled to at least one of a plurality of materials for forming a coating layer on a surface of each of the plurality of substrates, the coating system comprising a dip-coating apparatus having a plurality of substrate holders and a corresponding plurality of wells, the plurality of substrate holders and the plurality of wells relatively positionable to immerse the plurality of substrates secured by the plurality of substrate holders within at least one of the plurality of materials disposed within the plurality of wells; and

a curing system operative to apply at least one of a plurality of curing environments to each of a plurality of regions associated with the coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c32] (Canceled) A system for creating a combinatorial coating library, comprising:

a coating system operatively coupled to at least one of a plurality of materials for forming at least one coating layer on a surface of a substrate; and

a curing system operative to apply at least one of a plurality of curing environments to each of a plurality of regions associated with the coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c34] (Amended) The system of claim [36] 1, wherein the at least one coating layer has a variable thickness.

[c36] (Amended) A method for [creating] using a combinatorial coating library, comprising the steps of:

selectively applying at least one of a plurality of materials suitable for forming at least one coating layer to a surface of one or more substrates; and

selectively applying at least one of a plurality of curing environments simulatneously to each of a plurality of regions associated with the at least one coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c37] (Amended) The method of claim [39] 36, wherein selectively applying at least one of the plurality of curing environments to each of the plurality of regions further comprises selectively applying substantially the same predetermined one of the plurality of curing environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c38] (Amended) The method of claim [39] 36, wherein selectively applying at least one of the plurality of curing environments to each of the plurality of regions further comprises selectively applying a substantially different predetermined one of the plurality of curing environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c39] (Amended) The method of claim [39] 36, wherein the plurality of materials further comprise a material selected from the group consisting of polymeric materials[,] and oligomeric materials[, and small molecules].

[c40] (Amended) The method of claim [39] 36, wherein selectively applying at least one of a plurality of curing environments to each of a plurality of regions associated with the at least one coating layer, further comprises using a curing system comprising a

heating source in thermal communication with a heating element operably positionable adjacent to the one or more substrates.

[c41] (Amended) [A] The method of claim [39] 36, wherein selectively applying at least one of a plurality of curing environments to each of a plurality of regions associated with the at least one coating layer, includes using a curing system comprising a heating source in thermal communication with an elongate heating element operably positionable adjacent to the one or more substrates, wherein the elongate heating element has a variable heat distribution characteristic along a dimension of the heating element.

[c42] (Amended) [A] The method of claim [39] 36, wherein selectively applying at least one of a plurality of curing environments to each of a plurality of regions associated with the at least one coating layer, includes using a spatial mask having an elongate surface, said spatial mask having a radiation transmission characteristic which varies along a dimension of the elongate surface of said spatial mask.

[c44] (Amended) A method for [creating] using a combinatorial coating library, comprising the steps of:

providing a plurality of materials for forming a coating layer on a surface of a substrate;

providing a dip-coating apparatus having a plurality of substrate holders and a corresponding plurality of wells, the plurality of substrate holders and the plurality of wells relatively positionable to immerse a plurality of substrates secured by the plurality of substrate holders within at least one of the plurality of materials disposed within the plurality of wells; and

providing at least one of a plurality of curing environments to each of a plurality of regions associated with the coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c46] (Amended) The method of claim [48] 44, further comprising sequentially depositing the at least one material and applying the at least one curing environment to form a multi-layer coating, wherein the sequence of depositing and applying comprises a coating and curing sequence selected from a plurality of coating and curing sequences.

[c48] (Amended) A method [of] for [creating] using a combinatorial coating library, comprising the steps of:

selectively depositing at least one coating layer formed from at least one of a plurality of materials onto a surface of a substrate, the surface of the substrate comprising a plurality of regions; and

selectively applying at least one of a plurality of curing environments simultaneously to each of the plurality of regions;

wherein the selective combination of the at least one of the plurality of materials and the at least one of the plurality of curing environments associated with each of the plurality of regions forms the combinatorial coating library.

CLEAN VERSION OF ALL CLAIMS

In accordance with 37 CFR 1.121(c)(3), the following is a clean version of the Claims, as rewritten by the foregoing amendments.

[c01] A system for creating a combinatorial coating library, comprising:

a coating system operatively coupled to at least one of a plurality of materials suitable for forming at least one coating layer on a surface of one or more substrates; and

a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c02] The system of claim 1, wherein the curing system is operable to apply substantially the same predetermined one of the plurality of curing environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c03] The system of claim 1, wherein the curing system is operable to apply a substantially different predetermined one of the plurality of curing environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c04] The system of claim 1, wherein the plurality of materials further comprise a material selected from the group consisting of polymeric materials and oligomeric materials.

[c05] The system of claim 1, wherein the coating system further comprises a coating system selected from the group consisting of a spray/vapor coating system, spin coating system, dip coating system, flow coating system, and draw-down coating system.

[c06] The system of claim 1, wherein the curing system further comprises a heating source in thermal communication with a heating element operably positionable adjacent to the one or more substrates

[c07] The system of claim 6, wherein the heating element has a variable heat distribution characteristic along a dimension of the heating element.

[c08] The system of claim 6, wherein the heating element has a constant temperature distribution along a dimension of the heating element.

[c09] The system of claim 6, wherein the heating element has a variable temperature distribution along a dimension of the heating element.

[c10] The system of claim 6, wherein the heating element has a geometrical shape which is a predetermined function along the length of the heating element.

[c11] A system for creating a combinatorial coating library, comprising:

a coating system operatively coupled to at least one of a plurality of materials suitable for forming at least one coating layer on a surface of one or more substrates; and

a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer, the curing system comprising a heating source in thermal communication with an elongate heating element operably positionable adjacent to the one or more substrates, wherein the heating element has a variable heat distribution characteristic along a dimension of the heating element;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c12] The system of claim 1, wherein the curing system further comprises a spatial mask having an elongate surface positioned between a curing source and the at least one coating layer, wherein a radiation transmission characteristic varies along a dimension of the elongate surface of the spatial mask.

[c13] The system of claim 1, wherein one of the plurality of curing environments associated with at least one coating layer further comprises a spatial mask having at least one dimension said mask being positioned between a curing source and the at least one coating layer, wherein the radiation transmission characteristic varies along at least one dimension of the spatial mask.

[c14] The system of claim 13, wherein the radiation transmission characteristic varies as a function of time and wavelength.

[c15] The system of claim 13, wherein the radiation transmission characteristic varies exponentially, linearly, sinusoidally, or stepwise.

[c16] The system of claim 1, wherein the plurality of curing environments include a curing environment selected from the group consisting of thermal radiation, ultraviolet radiation, visible radiation, microwave radiation, electron beam radiation, laser radiation, and humidity.

[c17] A system for creating a combinatorial coating library, comprising:

a coating system operatively coupled to at least one of a plurality of materials suitable for forming at least one coating layer on a surface of one or more substrates; and

a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer, wherein the plurality of curing environments include a curing

environment selected from the group consisting of thermal radiation, ultraviolet radiation, visible radiation, microwave radiation, electron beam radiation, laser radiation, and humidity, the curing system comprising a spatial mask having an elongate surface positioned between a curing source and the at least one coating layer, wherein a radiation transmission characteristic varies along a dimension of the elongate surface of the spatial mask;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c18] The system of claim 17, wherein the coating system further comprises a coating system selected from the group consisting of a spray and vapor coating system, spin coating system, dip coating system, flow coating system, and draw-down coating system.

[c19] The system of claim 1, wherein said coating system further comprises a dip-coating apparatus having a plurality of substrate holders and a corresponding plurality of wells, the plurality of substrate holders and the plurality of wells relatively positionable to immerse a plurality of substrates secured by the plurality of substrate holders within at least one of the plurality of materials disposed within the plurality of wells.

[c20] The system of claim 19, further comprising a plurality of substrates each secured by one of the plurality of substrate holders, each of the plurality of substrates comprising an acoustic wave transducer having a first acoustic wave parameter and a second acoustic wave parameter, the first acoustic wave parameter corresponding to a first amount of coating or viscoelastic property of the coating layer, the second acoustic wave parameter corresponding to a second amount of coating or viscoelastic property of the coating layer.

[c21] The system of claim 1, wherein each of the plurality of curing environments comprises one of a plurality of curing sources and one of a plurality of curing characteristics, wherein the curing system is operable to apply substantially the same curing source in combination with a substantially different predetermined one of the plurality of curing characteristics to each region associated with the coating layer.

[c22] The system of claim 1, wherein each of the plurality of curing environments comprises one of a plurality of curing sources and one of a plurality of curing characteristics, wherein the curing system is operable to apply a substantially different curing source in combination with a substantially different predetermined one of the plurality of curing characteristics to each region associated with the coating layer.

[c23] The system of claim 1, wherein one of the plurality of curing environments associated with at least one coating layer further comprises a scanning mirror system having a mirrored surface positionable relative to an incoming radiation beam, wherein the mirrored surface is positionable to direct the incoming radiation beam to a selected one of the plurality of regions associated with the coating layer.

[c24] The system of claim 1, wherein one of the plurality of curing environments associated with at least one coating layer further comprises a plurality of waveguides each having a first end corresponding to one of the plurality of regions associated with the coating layer and a second end associated with a curing source.

[c25] The system of claim 1, wherein one of the plurality of curing environments associated with at least one coating layer further comprises a heating source in thermal communication with an elongate heating element operably positionable adjacent to the plurality of substrates, wherein the elongate heating element has a modulated heat transmissibility characteristic.

[c26] A system for creating a combinatorial coating library, comprising:

a plurality of substrates each secured by one of a plurality of substrate holders, each of the plurality of substrates comprising an acoustic wave transducer having a first acoustic wave parameter and a second acoustic wave parameter, the first acoustic wave parameter corresponding to a first amount of coating or viscoelastic property of a coating layer on the substrate, the second acoustic wave parameter corresponding to a second amount of coating or viscoelastic property of the coating layer on the substrate;

a coating system operatively coupled to at least one of a plurality of materials for forming a coating layer on a surface of each of the plurality of substrates, the coating system comprising a dip-coating apparatus having a plurality of substrate holders and a corresponding plurality of wells, the plurality of substrate holders and the plurality of wells relatively positionable to immerse the plurality of substrates secured by the plurality of substrate holders within at least one of the plurality of materials disposed within the plurality of wells; and

a curing system operative to apply at least one of a plurality of curing environments to each of a plurality of regions associated with the coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c34] The system of claim 1, wherein the at least one coating layer has a variable thickness.

[c36] A method for using a combinatorial coating library, comprising the steps of:

selectively applying at least one of a plurality of materials suitable for forming at least one coating layer to a surface of one or more substrates; and

selectively applying at least one of a plurality of curing environments simulatneously to each of a plurality of regions associated with the at least one coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c37] The method of claim 36, wherein selectively applying at least one of the plurality of curing environments to each of the plurality of regions further comprises selectively applying substantially the same predetermined one of the plurality of curing

environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c38] The method of claim 36, wherein selectively applying at least one of the plurality of curing environments to each of the plurality of regions further comprises selectively applying a substantially different predetermined one of the plurality of curing environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c39] The method of claim 36, wherein the plurality of materials further comprise a material selected from the group consisting of polymeric materials and oligomeric materials.

[c40] The method of claim 36, wherein selectively applying at least one of a plurality of curing environments to each of a plurality of regions associated with the at least one coating layer, further comprises using a curing system comprising a heating source in thermal communication with a heating element operably positionable adjacent to the one or more substrates.

[c41] The method of claim 36, wherein selectively applying at least one of a plurality of curing environments to each of a plurality of regions associated with the at least one coating layer, includes using a curing system comprising a heating source in thermal communication with an elongate heating element operably positionable adjacent to the one or more substrates, wherein the elongate heating element has a variable heat distribution characteristic along a dimension of the heating element.

[c42] The method of claim 36, wherein selectively applying at least one of a plurality of curing environments to each of a plurality of regions associated with the at least one coating layer, includes using a spatial mask having an elongate surface, said spatial mask having a radiation transmission characteristic which varies along a dimension of the elongate surface of said spatial mask.

[c44] A method for using a combinatorial coating library, comprising the steps of:

providing a plurality of materials for forming a coating layer on a surface of a substrate;

providing a dip-coating apparatus having a plurality of substrate holders and a corresponding plurality of wells, the plurality of substrate holders and the plurality of wells relatively positionable to immerse a plurality of substrates secured by the plurality of substrate holders within at least one of the plurality of materials disposed within the plurality of wells; and

providing at least one of a plurality of curing environments to each of a plurality of regions associated with the coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c46] The method of claim 44, further comprising sequentially depositing the at least one material and applying the at least one curing environment to form a multi-layer coating, wherein the sequence of depositing and applying comprises a coating and curing sequence selected from a plurality of coating and curing sequences.

[c48] A method for using a combinatorial coating library, comprising the steps of:

selectively depositing at least one coating layer formed from at least one of a plurality of materials onto a surface of a substrate, the surface of the substrate comprising a plurality of regions; and

selectively applying at least one of a plurality of curing environments simultaneously to each of the plurality of regions;

wherein the selective combination of the at least one of the plurality of materials and the at least one of the plurality of curing environments associated with each of the plurality of regions forms the combinatorial coating library.